Claims

What is claimed is:

1. A method for providing an indication of the vehicle's extremity clearance

based on the projection of the ground patterns by light beams of which the paths are set beyond the vehicle's extremity,

say comprising:

a light set located at one side of the vehicle's end that projects its light beam, of which the path is set to keep a required safety distance beyond the vehicle bumper, onto the ground on the other side beyond the vehicle's width, forming an illuminated ground pattern, say a red line, which is made visible to the driver either by directly looking out the driver side window or using the side rearview mirrors.

2. The method as set forth in claim 1 and further comprising an advance warning light set, of which the light beams have a larger horizontal distance from the bumper and project additional ground patterns further beyond the vehicle's extremity.

3. The method as set forth in claims 1 and 2 being applied to generate the projected ground pattern on the vehicle rear/driver side.

4. The method as set forth in claim 1 and 2 being applied to generate the projected ground pattern on the vehicle rear/passenger side.

5. The method as set forth in claim 1 and 2 being applied to generate the projected ground pattern on the vehicle front/driver side.

6. The method as set forth in claim 1 and 2, when applied to the rear as set forth in claims 3 and 4, wherein the activation of the rear clearance lights simultaneously tilts the angle of the side rearview mirrors to the positions at which the driver can see the projected rear ground patterns through the mirrors.

7. The method as set forth in claim 1 and 2, when applied to the rear as set forth in claims 3 and 4, wherein additional mirrors are added to the side rearview mirrors respectively on the driver and passenger sides to assist the driver to observe the projected rear ground patterns.

8. The method as set forth in claim 1 and 2, when applied to the rear as set forth in claims 3 and 4, wherein the activation of the rear clearance lights is tied to the transmission such that, when the vehicle is shifted into the reverse gear, the rear clearance lights are turned on.

9. A method for indicating the distance of an approaching object from the vehicle, comprising:

two light sets located at the vehicle's front that shoot respectively two spreading bands of light beams which lie respectively on two divergent planes

of which the intersection resides on the reference plane which is the starting plane for measuring the distance from the object and is perpendicular to the ground,

and of which the inclination angles θ_1 and θ_2 with respect to the reference plane obeying (exactly or approximately) the rule $\cot(\theta_1) + \cot(\theta_2) = 1$, such that the distance between the two illuminated lines projected on the object is made to be the same as the distance between the vehicle and the object.

10. The method as set forth in claim 9, wherein the two spreading bands of light beams are reduced to two individual light beams and consequently the two illuminated lines projected on the object merges into two illuminated spots.

11. The method as set forth in claim10, being applied to the front/passenger side corner with divergent light beams residing on a plane which is perpendicular to the ground.